

Duct Balance Lab

The Duct Balance Lab was generated from an AAON sponsored mechanical engineering senior design project. This particular lab is used as an introduction to duct balancing through the use of the Alnor electronic balancing tool (EBT) as shown in Figure 1. MET 466 students are able to construct and then use the Alnor EBT to analyze the flow rates of four different diffusers and adjust them accordingly.

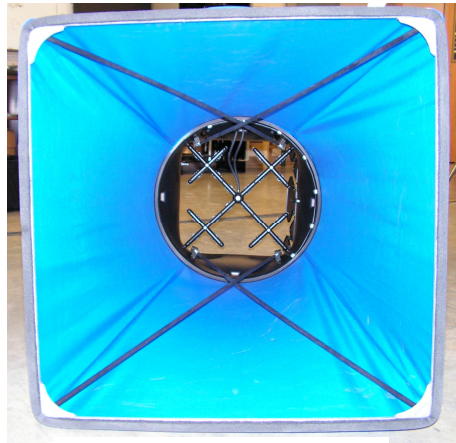


Figure 1: Alnor EBT

Testing:

The system to be used for this analysis will be a basic mixed air plenum system maintaining conditions for one room using one return duct, and 4 supply ducts located in the indoor room of Montana State University HVAC lab's psychrometric chambers. Figure 2 depicts the layout of the ducting, located above the ceiling of the indoor chamber.

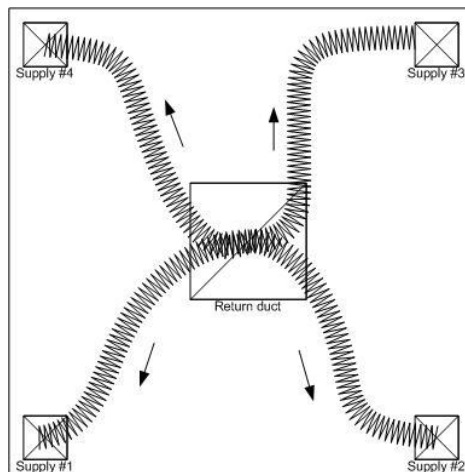


Figure 2: Ducting Layout